

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(currently amended) A method of estimating channel coefficients (h) in a multi carrier transmit diversity

system operating in accordance with a block-coding scheme, comprising:

- a) determining from a receive signal (~~Y~~) for each channel estimated channel coefficients (~~\hat{h}~~) comprising artificially introduced interference components (~~I~~) from adjacent channels;
- b) deriving estimates (~~\hat{I}~~) for the interference components (~~I~~); and
- c) determining interference-compensated estimates (~~\hat{h}_{F+I}~~) for the channel coefficients (~~h~~) on the basis of the estimates (~~\hat{I}~~) for the interference terms (~~I~~).

2.(currently amended) The method of claim 1, wherein the estimated channel coefficients (~~h~~) are determined based on the assumption that the channels do not change during an amount of instants (~~z~~) required to transmit two or more data symbols.

3.(currently amended) The method according to claim 2, wherein, based on the assumption, the estimated channel coefficients (~~\hat{h}~~) are determined such that the estimated channel coefficients (~~\hat{h}~~) of two or more adjacent instants (~~z~~) are identical.

4.(currently amended) The method of ~~one of claims 1 to 3~~claim 1, wherein determining the estimated channel coefficients (\hat{h}) comprises multiplying a known data matrix (Z) comprised within the receive signal (Y) with the Hermitian (Z^H) of the known data matrix (Z).

5.(currently amended) The method of ~~one of claims 1 to 4~~claim 1, wherein the step of determining estimates (\hat{I}) for the interference components (I) of a specific channel comprises exploiting a correlation among a plurality of channel coefficients (\hat{h}) estimated for the specific channel.

6.(currently amended) The method according to claim 5, wherein the estimated channel coefficients (\hat{h}) are processed such that for the specific channel an identity of estimated channel coefficients (\hat{h}) which belong to adjacent instants (z) is broken.

7.(currently amended) The method of claim 6, wherein processing of the estimated channel coefficients (\hat{h}) is effected by interpolation or filtering.

8.(currently amended) The method of ~~one of claims 6 or 7~~claim 6, wherein the estimates (\hat{I}) for the interference components (I) are derived from the processed channel coefficients (\hat{h}_p).

9.(currently amended) The method of ~~one of claims 6 to 8~~claim 6 wherein the interference-compensated estimates (\hat{h}_{F+IC}) for the channel coefficients (\hat{h}) are derived from the processed channel coefficients (\hat{h}_F).

10.(currently amended) The method of claim 9, wherein determining the interference-compensated estimates (\hat{h}_{F+IC}) comprises subtracting the estimates (\hat{I}) for the interference components (I) from the processed channel coefficients (\hat{h}_F).

11.(currently amended) The method of ~~one of claims 1 to 10~~claim 1, wherein the block-coding is effected by space-time block-coding (STBC) or space-frequency block-coding (SFBC).

12.(currently amended) The method of claim 11, further comprising switching between space-time block-coding (STBC) and space-frequency block-coding (SFBC) in dependence on one or more transmission constraints.

13.(currently amended) A computer program product comprising program code portions for performing the steps of ~~one of claims 1 to 12~~claim 1 when the product is run on a computer.

14.(original) The computer program product of claim 13 stored on a computer readable recording medium.

15.(currently amended) An estimating circuit (44) for estimating channel coefficients (\hat{h}) in a multi carrier transmit diversity system operating in accordance with a block-coding scheme, comprising:

- a) a unit (48) for determining from a receive signal (\mathbf{Y}) for each channel estimated channel coefficients (\hat{h}) comprising artificially introduced interference components (\mathbf{I}) from adjacent channels; and
- b) a unit (52) for deriving estimates ($\hat{\mathbf{I}}$) for the interference components (\mathbf{I}) and for determining interference-compensated estimates (\hat{h}_{F+IC}) for the channel coefficients (\hat{h}) on the basis of the estimates ($\hat{\mathbf{I}}$) for the interference components (\mathbf{I}).

16.(currently amended) The estimating circuit according to claim 15, further comprising a processing unit (50) for processing a plurality of channel coefficients (\hat{h}) estimated for a specific channel utilizing a correlation among the estimated channel coefficients (\hat{h}).

17.(currently amended) A transceiver of a wireless communication system comprising a receiver stage (40) with an estimating circuit (44) according to claim 15 or 16.